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14. ABSTRACT This study examines the extent to which combat driving behaviors and anxieties are carried-over into driving on American roads post-deployment from service in Operation Enduring Freedom/Operation Iraqi Freedom/Operation New Dawn (OEF/OIF/OND) and to compare such behaviors in Service Members (SMs) who have and have not served in these combat operations and who do and do not have mild traumatic brain injury (mTBI). The study has struggled to gain access to subjects, finally achieving access to FT Gordon this year. Two other sites (FT Campbell and FT Bragg) are in process as is USARIEM. This month, FT Gordon PI (S. Mooney) begins distribution of surveys. Personnel are also in training for telephone survey option and survey questions. No findings to report at this time.					
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INTRODUCTION: Service Members (SMs), especially Soldiers, serving in Operation Enduring Freedom/Operation Iraqi Freedom (OEF/OIF) (and newly Operation New Dawn (OND)) use combat driving maneuvers to avoid roadway threats. These become automatic as they are performed repeatedly and strongly linked to safety. A regional pilot study by the PI and graduate students (Riley-Chiabotti, Hieb, Welle, **Stern**, 2008; **Stern**, 2009; Christensen, Escobar, Riess, **Stern**, 2009) indicated that post-deployed Soldiers may have high levels of carryover behaviors and anxieties and that these behaviors are long lived issues – lasting for several months post-deployment. Reflecting Killgore, Cotting, Thomas, et al's. (2008) finding that general combat trauma influences risky behaviors post-deployment (including risky driving), driving carryover behaviors and anxieties regressed significantly on the level of Soldiers' OIF/OEF driving-related trauma (Polzin, Wenker, **Stern EB**, 2009). The current CDMRP study builds upon these findings, using a drop-off-mail-back survey to provide firm national data on the scale, incidence, and timeline of combat-driving behaviors among post-deployed Soldiers with and without mild traumatic brain injury (mTBI) or mTBI with post-traumatic stress syndrome (mTBI/PTSD), and compares Post-deployment Soldiers to Soldiers who have not served in OEF/OIF/OND. The study's goals are to determine the extent to which combat driving tendencies are carried over into post-deployment driving on American roads by Soldiers with mTBI and those without mTBI, to separate driving behaviors associated with military service from those associated with brain injury or deployment, to examine the impact of dual diagnosis of mTBI/PTSD on driving carryover, and to establish military respondents' self-recognition of driving behaviors relative to an informed third party report as a measure of self-awareness. Further, the study compares the responses of survey participants in the three strata mentioned above with a *Knowledgeable Other* (i.e., *Family/Friend* identified by the military respondent as someone who has been a passenger when the service member drove). The ultimate purpose of the study is to describe behaviors and needs to allow appropriate post-deployment program development for Soldiers, families, and communities.

BODY:

Project work has accomplished recruitment and approval of 1 site (thus partially met Task 1 'Obtain IRB approval'). We will continue to recruit collaborating commanders and sites that will allow access to invite participation of Service Members (SMs). The original project methodology proposed a database derived mailed survey. When funded, CDMRP staff informed us that such a database was not available for our use, and that an alternative method was needed. Thus the project was altered to be one of a drop off-mail/phone return. As such, the study relies on access to sites with SMs who have and have not served in OIF/OEF/OND, and who do and do not have mTBI. In addition to positive discussion with OT personnel at FTs Campbell and Bragg, we have verbal agreement to recruit non-deployed personnel at USARIEM. STERN (PI) to write letters of intent, protocols, and IRBs for all three sites. Recent communication with USAA insurance company indicates that driving post-deployment likely to continue to be of concern.

KEY RESEARCH ACCOMPLISHMENTS:

- The project starts distribution of the survey packets to SM's at FT Gordon this month (October, 2011) after research assistants are trained by site PI Scott Mooney.
- Three additional sites are in process for approval.

REPORTABLE OUTCOMES:

This year saw the first site established for data collection, and survey distribution begun. Three other sites require paperwork, but are willing to serve as distribution sites. There are no reportable findings from the current project. However, there have been other works that were assisted by the PI's work on this grant, and related to military challenges re. driving, and driving simulation. They include:

• **Product development:**

- Developed brochures for return to driving after mild traumatic brain injury (TBI) for SMs and Family as part of work with Rehabilitation and Reintegration Division (R2D), Office of The Surgeon General- Army. These are in penultimate form, final form planned for end of October, and will then seek approval through Public Affairs Officer. Intent is to post to R2D website and distribute print versions at military TBI conferences. UM Students will be invited to research stakeholder response toward improved 2nd version 2012.
- Developed paper, decision chart, assessment table, clinical screen forms *Driving Screening, Treatment, and Referral for Generalist Occupational Therapists: Clinical Recommendations*

for Clients Following Traumatic Brain Injury, by All Branches Occupational Therapy Consortium (ABOTC). Working Group (alpha order): Ms. Cindy Deleon-Bell, CDR Laura Grogan, Ms. Tamatha Gallegos, Ms. Mary C. Guardia, LCDR Joseph S. Otto, Ms. Deirdre Peters, Ms. Theresa Prudencio, and **Dr. Erica B. Stern**. Other Contributors: Ms. Elin Schold Davis, CPT Tammy Phipps. To be reviewed by R2D toward posting on website and CD distribution.

- Wrote Information Paper: **Stern, E** (2011) *Clinical Driving Simulator Selection Considerations*, Rehabilitation and Reintegration Division (R2D), Office of The Surgeon General- Army.)
- **Non refereed publication:** Stern, E.B., Prudencio, T., Sadler, E. (2011). Shifting gears: Helping service members return to the road. *OT Practice*, 16 (2), 6-7.
- **Presentations:**
 - **Stern, E**, Zola J, Radomski MV (2011) *RDriving Simulation 101: Driving simulation as a clinical tool* (also to include orientation to OT-PT mTBI Toolkit). Sponsored by the Proponency Office for Rehabilitation and Reintegration (now Rehabilitation and Reintegration Division, R2D). *Reprise to 2010 workshop – same name*, Held at Sister Kenny Institute, Minneapolis, MN. Workshop (2 1/2 day)
 - Schold-Davis E, Classen S, **Stern EB** (2011). Embracing the Emerging Driving Practice Area: From Occupational Therapist to Driving Rehabilitation Specialist. American Occupational Therapy Association, Philadelphia. Institute.
 - **Stern, EB**, Schold-Davis E, Classen S (2011). Driving Simulation needs and uses. American Occupational Therapy Association, Philadelphia. Talk About (Town hall).
- **Research Poster:** Babulal G, Korpela C, Lane T, Schwartz A, **Stern EB** (2010). Developing Soldier-Accepted Driving Resources for Post-Deployment Combat Driving Behaviors and Related Driving Anxieties. American Occupational Therapy Association (AOTA) Conference, Philadelphia, PA. *Reprise of presentation 2010 to MOTA*
- **Funding:**
 - CDMRP Clinical Trial Award - Regenerative Medicine, Pain, Sensory System titled *Development of a valid and reliable visual screen for Service Members with traumatic brain injury (#DM 120096)*. **Principal Investigator: Stern EB** Co-Investigators(alpha order) : Chong, J., Llanos, I., Otto, J., Scheiman, M, Wallendorf, M. Tentatively FTE=.30,
 - ORISE Faculty Fellowship: To develop policies, procedures, and best practices related to driving for returning Soldiers post-deployment to Operation Enduring Freedom and Operation Iraqi Freedom. **Fellow: Stern EB**. FTE=.40
 - *IN DRAFT:* STTR/NIH for *Working Title: Applying the VERA, a proven computerized vision skills screen, to the traumatic brain injured rehabilitation population*. **Principal Investigator: Stern EB** Co-Investigators (alpha order): Galanter, S for Visual Technology Applications Inc., Oddsson, L for Sister Kenny Institute, Scheiman, M. *Budget and FTE not determined*

CONCLUSION: The study's 1st site has been developed for survey distribution. PIs Stern and Rockwood continue to work to access additional sites and expect these to be accessible soon. We are hopeful that current efforts will add 2 to 3 more sites soon.

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Riley-Chiabotti L, Hieb A, Welle L, **Stern EB** (2008) From Willmar/St Paul To Iraq/Afghanistan: Report of two current studies of Minnesota drivers. Minnesota Occupational Therapy Association, St Cloud, MN.

Stern, E (2009) Post-deployment Driving Behaviors and Driving-related Anxieties". Driving Assessment Conference, Defense Centers of Excellence (DCoE) for Psychological Health and Traumatic Brain Injury. Washington, DC.

Polzin J, Wenker K, **Stern EB** (2009) Personal and Experiential Factors Associated with Driving Reintegration of Soldiers Post-deployment from OIF/OEF. MOT Defense, University of Minnesota, Minneapolis, MN.

Christensen E, Escobar O, Riess J, **Stern EB** (2009). Comparison of Self-Reported Driving Behaviors and Anxieties of OIF/OEF Soldiers at 30, 60, and 90 days Post-Deployment. MOT Defense, University of Minnesota, Minneapolis, MN.

Killgore, W. D. S., Cotting, D. I., Thomas, J. L., Cox, A. L., McGurk, D., Vo, A. H., et al. (2008). Post-combat invincibility: Violent combat experiences are associated with increased risk-taking propensity following deployment. *Journal of Psychiatric Research*, 42, 1112-1121

APPENDICES: NONE

SUPPORING MATERIALS: NONE